The Builder.

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IN July last we referred to the extraordinary excitement which prevailed on the subject of railways, the gambling carried on, and its probable consequences: we mentioned some of the newest schemes before the public, and referred to the singular change in opinion which had taken place since the time when the towns were striving to keep the rail as far from them as possible, and spent large sums of money to injure themselves.

At the moment we wrote the mania for speculation in railway shares seemed almost universal, and might have been thought at its highest. Since then, however, it has increased in a fearful manner, and, at the present moment, possesses the whole mind of thousands. It is madness, and nothing short of it. Shares in projects to which an Act was refused for reasons which will exist when the application is again made, find purchasers at a premium; scrip, which could be bought yesterday for one pound, commands to-day three, although its circumstances remain precisely the same, and men talk of having made twenty, thirty, and forty thousand pounds by what seems a very safe and simple operation, namely, subscribing for shares at par, waiting a few days, until an adventitious value was given them by the prevailing desire to buy shares, selling them, and pocketting the difference.*

It is, perhaps, hardly our province to comment on these proceedings; our more legitimate business is the construction of railways, the design and arrangement of stations; but observing the extent of the prevailing mania and well assured of its injurious tendency, we cannot avoid earnestly conjuring our readers to resist the desire to gamble infused by example, and to seek to raise their condition by continuous industry, and the exercise of their abilities, rather than a lucky stroke of fortune.

It is hardly necessary to say, our remarks apply simply to buying shares to sell again, (speculating on a rise), and not to the legitimate investment of capital in railways. The extension of the railway system is in no way to be deprecated, but, on the contrary, to be assisted to the utmost consistent with the national resources, as by means of this, the general prosperity will unquestionably be advanced. At present the advantages of the system are but partially developed; every line which is brought into work will make them more palpable.

The *Westminster Review* for the current month contains an able article on the all-engrossing topic, and brings forward some original and striking notions. After combatting the unwise system of high charges, the reviewer remarks:—

"The true value and uses of railways has not yet dawned on men's minds. They are the future streets of the coming time, when horse and foot transit shall be nearly extinct; when the conquest of time and space, by steam or other power, shall have made intercommunication perfect between every farm, village, town, and manufactory throughout the island; when the industrious races, no longer driven away by high or uncertain rates of transit, shall people the whole borders of the lines; when farms and manufactories shall work in unison, and contribute to increased results; when the most improved labour among processes shall be applied to the production of food as well as other articles.

This principle is obvious, and may be thus illustrated:—The value of Regent-street does not consist in its being the line of transit between Waterloo-place and the City-road, but in being the medium of communication with numerous wealthy buildings on either side. Take away the buildings, and the street would become a comparatively insignificant road. And these houses have been built because there exists facilities for the supply of water, fuel, and provisions. Take up the water-pipes, and break up the road, the result would at no distant period be analogous to one of 'Sultan Mahmoud's ruined villages.'

Crowded cities have been a result of slow and expensive transit, and therefore highways, on the old system, have not become lines of farms, factories, and dwellings. But for this, water-pipes would have been laid throughout. With the advent of railways the difficulty ceases, and towns may expand, for ten miles of railway are but as three miles of omnibus. Our railways will become streets of detached buildings, factories, dwellings, and farms, so soon as their uses shall be rightly appreciated; that the petty profits of distant transit shall merge and be overwhelmed in the huge gain to be wrought out from the land which bounds them; that the suicidal process of high fares shall be abandoned, which, like heavy turnpike tolls, deter the public from their territories."

Stationary engines, when not required for the line, should be used, it is urged, to carry on improved farming operations, independent of times and seasons, and with the minimum of human drudgery. "In all farm cultivation, as in factories, transit is one of the most costly items. No farms laid out on the ordinary plans, with mere highway transit, could compete with farms laid out along a line of railway, any more than a factory with distant cartage could compete with one situated on a canal or railway, and ultimately, when the uses of railways are thoroughly apprehended, all new farms and factories will be located thereon; and in self-defence, the existing farm and factory owners must construct railways along their roads and streets. Where the mountain cannot come to Mahomet, Mahomet must go to the mountain! Upon this principle we feel assured that ere long the system will commence of laying down lines of rails along all the borders of highways, communicating with the various farms.

A stationary engine should be as much the central moving power—the nucleus of a farm—as of a factory. No factory of any magnitude is now constructed without an engine, and the factory is the centre of a neighbourhood of greater or less extent. Supposing a railway to be constructed through a line of factories, the engine power of those factories might be used for the purpose of atmospheric traction during meal times, exhausting a receiver for that purpose. And thus in farm districts the power need only be applied to road purposes when required, using it for farm purposes at all other times."

Viewing the Epsom line as the first of the atmospherics, the reviewer selects that as the scene of operations, and shews how he would proceed:—

"We would procure a well or underground tank to be made to receive the liquid contents of the sewers, either of Croydon or of the Deptford marsh. By stationary engine power we could force this sewer water through a line of pipes along the course of the railway to the next stationary engine, used for working the line, in the neighbourhood of which land fit for agricultural purposes could be found. We would then, by means of the engine power, force the sewer water up a stand pipe precisely similar to the mode used by the water companies for high service. Having secured, on lease or otherwise, a sufficient extent of ground proportioned to the supply of sewer water, we would apply it to the land in the mode thus described in Martin's 'Thames Embankment and Metropolis Improvement Plans,' p. 17.

'The consideration which I have so long given to this most important subject, leads me here to propose a system of distributing the manure, which appears to me to be greatly superior in economy and efficiency to the foregoing, or to any at present in use:—it is to apply the well-known principle of *fluids finding their level*—thus to convey the sewage in its most fluid state, by means of pipes, from the principal receptacle or great sewers, and to then pump it up into a small receptacle or hydraulic tower of sufficient elevation, from which a pipe should descend, and be laid down into the centre of the tract to be manured. A cock and strong caoutchouc cloth hose, with one or more small branches, should be attached to the extremity of the pipe, and a swivel cock placed at the junction of the branches to allow of their being easily moved round; by these means, each hose being guided by a man, the manure could be turned on, and projected in every direction in the same way as the firemen discharge water upon a fire; and, without moving the main hose, a space of three miles in circumference could be manured with only one half-mile of iron pipe, the same hose serving to manure the whole tract, and be then readily transported to another locality.'

The value of this system may be understood from the fact that land in the neighbourhood of Edinburgh has risen in value from 2*l.* to 20*l.*, 30*l.*, and 40*l.* per acre, as meadow land, by the simple application of sewer water, by which means four and five annual crops of grass are obtained.* One cause of the value of this Edinburgh land is its proximity to the city. But land bordering a railway is, if the railway be rightfully applied, equally available at ten miles distance as ordinary land at one.

To this same station we would lay down a main of water-pipes from the most eligible supply along the whole course of the line; and we would also lay down a main of gas-pipes.

At the station, we would inclose on the cheapest plan of an ordinary railway terminus, from two to four acres of land in a square form, with brick walls, say 20 feet high. The roof to be in spans of 50 to 60 feet, formed of iron, and supported on iron columns. The whole of this we would cover in with hail-proof glass, a process that will be ultimately cheaper than slating, and far more durable. In Belgium, we believe, at this time glass for

* In France the mania is as strong as in England, and occupies the thoughts of all. In Austria, it appears, no new lines will be authorized till 1850, when all lines already commenced are to be completed.

* We quote the following from the prospectus of a company about to carry out Mr. Martin's plans.

"The great value of liquid manure, when applied to fertilize the land, has long been known and acknowledged, and of late the importance of the subject has been rendered more obvious by means of treatises on agricultural chemistry, and the experience of numerous enlightened persons who have used it on their farms and estates; more especially at Edinburgh, where lands that were previously worth but from 5*s.* to 1*l.* per acre have, by means of it, been brought to yield a net rent of 20*l.* to 30*l.* per acre per annum. In regard to the drainage of populous towns, it assumes a still more important aspect, for, besides the value of the sewage as manure, there is the great advantage of preventing the nuisance inseparable from the ordinary discharge of drainage, viz.—by polluting the waters, and contaminating the air, to the great injury of the public health. In the *metropolis* these considerations become of incalculable moment. To prevent evils, and to realize benefits, both of immeasurable extent, are results so important to the welfare of the community, that any plan which is calculated for their attainment may justly claim the support and co-operation of the public: and it must be gratifying to know that such a plan can be effected, with advantage also to those who may undertake its execution. The subject has been carefully investigated and considered, both scientifically and practically, and the result is, that a company is now in the course of being formed, to effect the important object of conveying the liquid manure from the sewers of London, to fertilize the surrounding country.

"Without entering into details, it may suffice to state that a plan has been matured, with the co-operation of several eminent agriculturists, engineers, and others conversant with the various bearings of the subject, upon which specific calculations have been made; and it appears that the liquid manure from the sewers may be supplied by pipes and engines to the extent of about thirty miles round London, at the rate of 100 tons per acre per annum, at 3*d.* per ton (or 1*l.* 5*s.* per acre); and that at this price it will yield a very liberal profit.

"The scheme will eventually embrace the whole of the sewage on both sides of the Thames; but it is proposed at first to limit the operations to those comprised in King's Scholars' Pond and Ranelagh Districts, which will suffice for distribution over upwards of 100 square miles, comprising a large extent of poor lands, particularly susceptible of improvement."

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